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ABSTRACT

There is a need when working with mentally handicapped people to develop interventions that can be used within a self-control framework. One intervention that has demonstrated success in a self-control context with normally intelligent people is Cognitive Stress Inoculation Training (CSIT). In CSIT clients are taught to recognize current self-talk patterns that contribute to their stressful reactions and to change that self-talk so that it promotes more tranquil affect and more facilitative behavior. This study explored the viability of using CSIT with mentally handicapped people. A field study was conducted using subjects (N=10) who were residents in an urban residential treatment facility for mentally handicapped people. All subjects had at least one sensory impairment. The program was an adaptation of Stress Inoculation Training Program, presented within an instructional counseling context. In the first 3 weeks subjects were educated regarding the role of physiological arousal and self-talk in anger outbursts and generally prepared for the skill training that followed. Weeks 4 to 6 focused on acquiring skills for controlling anger. The last two sessions focused on switching to using anger control skills in the residential and work settings. Results suggest that CSIT was a useful strategy for teaching mentally handicapped people to control their anger outbursts and that the effects tended to persist after training was finished. (ABL)

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Cognitive Strategies For Mentally Handicapped Clients

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Cognitive Strategies For Mentally Handicaped Clients

The purpose of this paper is to expand the range of interventions that counsellors view as viable alternatives for mentally handicaped people. The program we developed and field tested is an example of how a nontraditional (for this client group) program can be used succesfully with memtally handicaped people.

Rationalle

There is a need when working with mentally handicaped people to develop interventions that can be used within a self-control framework (see Malcolm & Hiebert, 1986). Usually, attempts to change maladaptive behaviour with mentally handicaped people are under the control of institutions or helping professionals. Although gains in appropriate behaviour frequently occur, when the counselling stops or the client is released from the institution the control disappears and the inappropriate behaviour returns. Self-control interventions have a better prognosis for maintaining change because control remains with the client.

One intervention that has demonstrated success in a self-control context with normally intelligent people is Cognitive Stress Inoculation Training (CSIT) (Meichenbaum, 1975, 1985). Briefly, in CSIT clients are taught to recognize current self-talk patterns that contribute to their stressful reactions and to change that self-talk so that it promotes more tranquil affect and more facilitative behaviour. This approach has demonstrated success with problems such as test anxiety (Haynes,

et al., 1983), speech anxiety (Meichenbaum & Karsh, 1972), interpersonal anxiety (Meichenbaum & Turk, 1976), and anger control (Novacco, 1977). However, CSIT is not often thought of as a viable treatment for mentally handicaped people because they are assumed to lack the degree of cognitive sophistication necessary to make the program work. Our data suggest that CSIT can have powerful and enduring effect in teaching anger control to mentally handicaped people.

Pilot Study

We were encouraged in our attempts to explore the viability of using CSIT with mentally handicaped people by reoprted successes of that treatment with some nontraditional clent groups (e.g., Peters & Davis, 1981; Schlichter, 1978). Encouraged by those reports we developed a cognitive-based program for anger control. The program was piloted with a moderately retarded woman living in a residential care setting. The result was a substantial reduction in temper tantrums from and average of 3.3 per day during baseline to 1 per week at the end of treatment, a result that was maintained at 5 and 8 month follow-up. (See Malcolm & Hiebert, 1986 for a full report.) Encouraged by these results, we refined our program to remove potential treatment confounds and prepared a more exacting field test.

Field Test

Sample

The field test took place in an urban residential treatment facility for mentally handicaped people in British Columbia.

Five men and five women participated in the field test. Ages ranged from 20-56 (Mean =26.8), IQ's from 40-68 (Mean=53), and length of institutionalization from 2-23 years (Mean=10.5). In addition to being mentally retarded all 10 participants had at least one sensory impairment (i.e., speech, vision, or auditory impairment). These impairments were not absolute and all participants were able to function in all modalities with the assistance of hearing aids, corrective lenses, or speech therapy, where appropriate, or in one case through sign language. All participants were ambulatory, nonpsychotic, nonself-abusive, and were identified by ward staff as experiencing extreme lack of control over anger arousal and expressed an interest in learning to better control their anger outbursts. Although the anger outbursts were not accompanied by self-abusive behaviour, they were extremely disruptive, most often involving some combination of hitting, kicking, pushing, shouting, screaming abuse, swearing, overturning furniture, etc.

Treatment Program

Our program was an adaptation of Stress Inoculation Training Program (Meichenbaum, 1975, 1985), presented within an Instructional Counselling context (Martin & Hiebert, 1985). An Instructional Counselling focus was chosen because of its emphasis on client involvement in the learning process. Training took place across 8 weekly sessions following 2 weeks of baseline. The second author was the trainer or therapist for all participants. Meichenbaum conceltualizes CSIT as comprising three phases: education (cognitive preperation), skill

acquisition, and transfer.

Education. The main goal of the first 3 weeks of training was to educate participants regarding the role of physiological arousal and self-talk in anger outbursts and generally prepare them for the skill training that would follow. In the first session our pretesting (described below) was administered and a general description of the program was presented. In session two participants were told that increases in physiological arousal usually preceded anger outbursts and that by monitoring one's physiological state one could identify anger onset before the it became extreme. Through a combination of therapist modelling and focused questioning each participant identified a set of physiological cues that signaled the onset of an anger outburst. In session three the notion of self-talk was introduced. Initially participants had difficulty understanding what was ment by self-talk. A combination of therapist modelling and guided practice was used to train particiipants to identify their self-talk in anger provoking situations. Initially a set of puzzles was used to teach this concept. The therapist explained that she was going to say out loud all of the things she was saying to herself while trying to complete the puzzle. For example, "Let me see which piece will I try first. I think I'll try this one." (Picking up one piece and trying to put it in place.) "Does it go this way, no not quite, turn it around a bit, there it fits now". A similar monologue continued with a second piece. Then the participant was asked to do the same sort of thing while trying to put a third piece

in the puzzle. Practice continued with the therapist modelling self-instructing behaviour followed by participant practice. The practice continued through a series of progressively more difficult puzzles and then into simple card games.

Skill acquisition. The focus in weeks 4-6 was on acquiring skills for controlling anger. In the fourth session further practice in identifying self-talk took place focusing on making the self-instruction nonvocal. Participants were taught positive self-injuctions and verbal statements that cued a nonangry response. These statements were obtained from each participant's unique experiences so as to make them personally relevant. Some examples are: "I am not dumb", "I can handle this if I remain calm", "This situatio is making me angry but I don't have to hit and shout", and "I will not get into a fight because I know how to express my feelings in a positive way." In session five practice continued with the positive self-statements and in addition, subjects were taught cue-controlled relaxation, in a manner similar to Hiebert, Dumka, Cardinal, and Marx (1983), as a specific way to help control the physiological arousal that accompanied anger. In addition, participants were taught self-congratulatory statements to be used when they self-talked positively and used their relaxation to avoid responding angrily to provocation. Some of their statements were: "Well done, I didn't hit him", "Good for me, I'm learning how to handle these hassels", "I told them I did not like what they did without screaming or hitting, that makes me feel good". In session six participants were

taught how to put all the skills together in a logical sequence. The sequence we used was: identify and acknowledge increased arousal, objective appraisal of the anger provoking event, affire desired coping response, confronting the source of provocation, self-congratulation. Again a combination of therapist modelling and guided practice was used, gradually fading the verbal self-instruction so that it became nonvocal.

Transfer. In the last two sessions the focus switched to using anger control skills in the residential and work settings. Some of the participants had begun attempting to used their new skill spontaneously on the ward and in the workshop, however, we did not want to assume that all participants were able to transfer their new skills outside of the training context. We used a combination therapist modelling, overt and covert self-instruction, and role playing. After the participants demonstrated reasonable mastery of the skill sequences introduced in session six, the therapist simulated anger provocing events that had been described earlier by the participants and had them demonstrate their new skills, first overtly then subvocally. A sample of one participant's self-instruction follows. "My heart is beating faster and my hands are shaking. This means I am getting angry. I need to do my relaxation so I do not blow up." (Identifying increased arousal.) "Is this something I want to get upset about? What do I have to loose if I get mad? I think I want to stay calm." (Objective appraisal of anger provoking event.) "Yes I am upset, but I do not have to yell and scream. It is not that

bad. Let me relax and calm myself. I can handle this." (Affirme desired coping response.) "Listen, you pushed ahead of me just now and I don't like it when you do that. I am going to stand in front of you where I was before. Please do not push ahead of me again. If you need to be in from of me, ask next time." (Confronting the source of provocation.) "There I did it. I told her I did not like her pushing in front of me and I did not get angry or yell and scream. Good for me." (Self-congratulation.)

Dependent Measures

Our dependent measures were designed to test rigourously the extent to which change in anger outbursts could be attributed to our intervention (see Hiebert, 1984). Therefore, we had measures of the presenting problem (anger outbursts), general emotional adjustment, skill acquisition, and skill use.

Anger outburst data. At an informational session before treatment began participants were taught to record the frequency of anger outbursts on a calander immediately follow each occurrance. The number of anger outbursts per day also was monitored by ward staff and recorded on the participant's ward chart. In cases where there was a discrepency between the two records we agreed to take the lower of the two readings during baseline and the higher one during treatment and follow-up. Across all 10 subjects, there were 35 discrepencies out of 350 recorded incidents. In follow-up discussions with ward staff and participants, we found that 22 cases occurred when the resident had an outburst while off the ward and the staff had not been

informed (e.g., at the workshop, during craft time) and 13 cases occurred when the resident had forgotten to mark down an outburst that the staff had recorded. These 13 cases represent 3.7% of the total incidents. Thus it seems that the participants were able to reliably record their ager outbursts.

Social adjustment scores. The Rotter and Rafferty Incomplete Sentences Blanks (ISB) (Rotter & Rafferty, 1950) was used as an indication of general social adjustment, primarily at the insistance of the ward psychologist. Three dependent measures were obtained from the ISB: overall adjustment, anger-related words, and anger with personal intent to act aggressively. Responses on the ISB were rated independently by two trained psychologists. Pre and posttests were mixed together so that the raters were unaware of the test time for any given test. Also, three pretests and three posttests were duplicated and included in the set of responses in order to determine within-rater consistency. Interrater and intrarater agreement of 98% was obtained for all three dependent measures.

Skill acquisition and use. An ongoing assesment of skill acquisition was obtained by the therapist in each session, and care was taken to ensure that participants had mastered the skills at one stage of training before proceding to the next. An indication of skill generalization was obtained by rating each participant's self-reported feeling, thinking, behaviour in three simulated situations. During the initial information session residents were asked what sorts of things made them angry. From their responses, a series of three photographs were

prepared, the first depicting one person pushing another person, the second showing one person hitting another, and the third showing one person kicking another. At pretest and posttest the pictures were presented one at a time accompanied by a structured interview. For each picture, the participants were asked to describe the picture, put their finger on the person who was being pushed/hit/kicked, and imagine they were that person. They were then asked "If you were the person being pushed/hit/kicked, What would you feel?, What would you think?, What would you do? All interviews were tape recorded and scored later by two raters who were not aware of which tapes represented pretests and which represented posttests. Additionally, three pretests and three posttests were duplicated and included in the data set in order to determine within rater consistency. Interrater and within-rater agreements of 98% were obtained.

Design

Treatment occurred in a multiple baseline design across subjects. Yoked pairs of males and females began baseline data collection at 2 week intervals. This was followed by 8 weeks of treatment as described above, and 6 weeks of follow-up. A second 6 week follow-up was completed for the first two pairs of participants completing treatment.

Results

Anger outburst data. The anger outburst data are presented in Figure 1. A similar pattern can be observed across all 10 participants. Outburst frequency remains relatively stable

during baseline and cognitive preperation phases, begins to decline during skill acquisition, declines further during transfer training, and remains low over the follow-up period. The changes appear more dramatic when aggregated across all 10 participants. The weekly average number of outbursts during baseline was 4.25, decreasing to 3.10 during the education phase, 2.50 during skill acquisition, 1.15 during transfer, and .98 during follow-up. A 1-way ANOVA indicated that the differences between baseline and education, and between skill acquisition and transfer are statistically significant $F(9,36)=74.90$, $p<.001$. There were no significant differences between males and females. The differences between the skill acquisiton and baseline phases and between the transfer and follow-up phases were not statistically significant. Thus, it would seem that anger outbursts began to decline when participants began to see anger control in a treatable context, declined further when they learned specific skills for controlling anger and learned how to use these skills in their day-by-day situations, and remained low after treatment had finished. In fact the second set of follow-up data for the first four participants suggests that the effect was enhanced across the second follow-oup period.

Insert Figure 1 About Here

Social adjustment scores. Scores on the ISB are presented in Table 1. A 2-way ANOVA (sex by time) was conducted on the

three dependent measures arising from the ISB. In each case a statistically significant time effect was found but no sex differences and no interaction effects were present. Thus, ISB scores indicate that males and females benefited equally well from the treatment. They became more well adjusted, used fewer angry words in their resonses, and made fewer responses that indicated an intention to engage in aggressive behaviour.

Insert Table 1 About Here

Skill acquisition and use. The data from participant responses to the three anger provoking pictures are presented in Table 2. Pretest and posttest scores were compared using correlated t-tests. The results show that feelings in the three situations remained relatively unchanged, but facilitative thinking and nonaggressive behaviour increased significantly, while nonfacilitative thinking and aggressive behaviour decreased significantly at posttest. Thus, the affective state of the participants remained relatively unaffected by treatment, however, their thinking and behaviour becames more facilitative and more socially acceptable. To put it another way, the particiaants would still feel angry when provoked, but would respond to the provocation in a more adaptive manner.

Insert Table 2 About Here

Discussion and Implications

Our data suggest that Cognitive Stress Inoculation Training can be a useful strategy for teaching mentally handicapped people to conrol anger outbursts and that the effects tend to persist after training is finished. This suggests that cognitive interventions might be appropriate for a far larger client group than many counsellors suppose. This opens a wide range of potential applications for programs aimed at altering client self-talk either as a primary intervention (as in our case) or as an adjunct to other skill training interventions. For example, in cases where specific skill sequences have been taught (e.g., work-related skills like servicing a food line food line, telephoning skills, interviewing skills, etc.), self-instruction training might be used to cue an appropoiate skill sequence. A counsellor might model appropriate self-talk and behaviour, as in our training with puzzles, then assist in guided practice by the learner, gradually fading the assistance until the skill sequence was performed unassisted. A similar approach could be used to train motivation. Typically, motivation is enhanced when people perceive an activity as within their ability and as having a high probability for successful outcome (Martin & Martin, 1985). Altering self-talk to promote these perceptions probably will enhance motivation. For example, practicing self-statements like "I can do this", "I have the ability to do this right", "If I practice what I have learned then it will turn our succesful", instead of "I am dumb", "I can't do it", "It will not turn our anyway" will

likely have a positive on motiviation level. Our success leads us to be most optomistic about the prognosis for programs incorporating such a cognitive focus.

When using this type of intervention with mentally handicaped clients several important adaptations will help enhance the result. First, it is important to do a detailed task analysis of the component skills involved in the program, and to structure modelling, practice, and feedback components for each minute instructional step. For example, we had to explicitly teach our subjects what was ment by self-talk and teach them to recognise their own self-talk as prerequisites to identifying and altering maladaptive self-talk patterns. Second, it is important to include specific transfer training in the program even though many normally intelligent clients might not find that necessary. Although some of our participants began to spontaneously use their self-talk skills outside of our training setting, we received further decreases in anger outbursts when began to explicitly teach for transfer. Third, it is important to remember that mentally handicapped people typically need far more practice and reinforcement than most normally intelligent learners. Throughout our instruction, we were careful to give copious amounts of verbal reinforcement for attempting the skill practice and for mastering the skills, in addition to scheduling far more practice than most clients would need. However, if the component skills are identified, incremented, and sequenced correctly, if abundent practice is incorporated, and positive feedback provided, then mentally

handicaped clients seem to be able to master cognitive skill training aimed at enhancing facilitative cognitions and cueing appropriate behaviour.

Note. A copy of the training protocol used in this study is available from the first author.

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Table 1

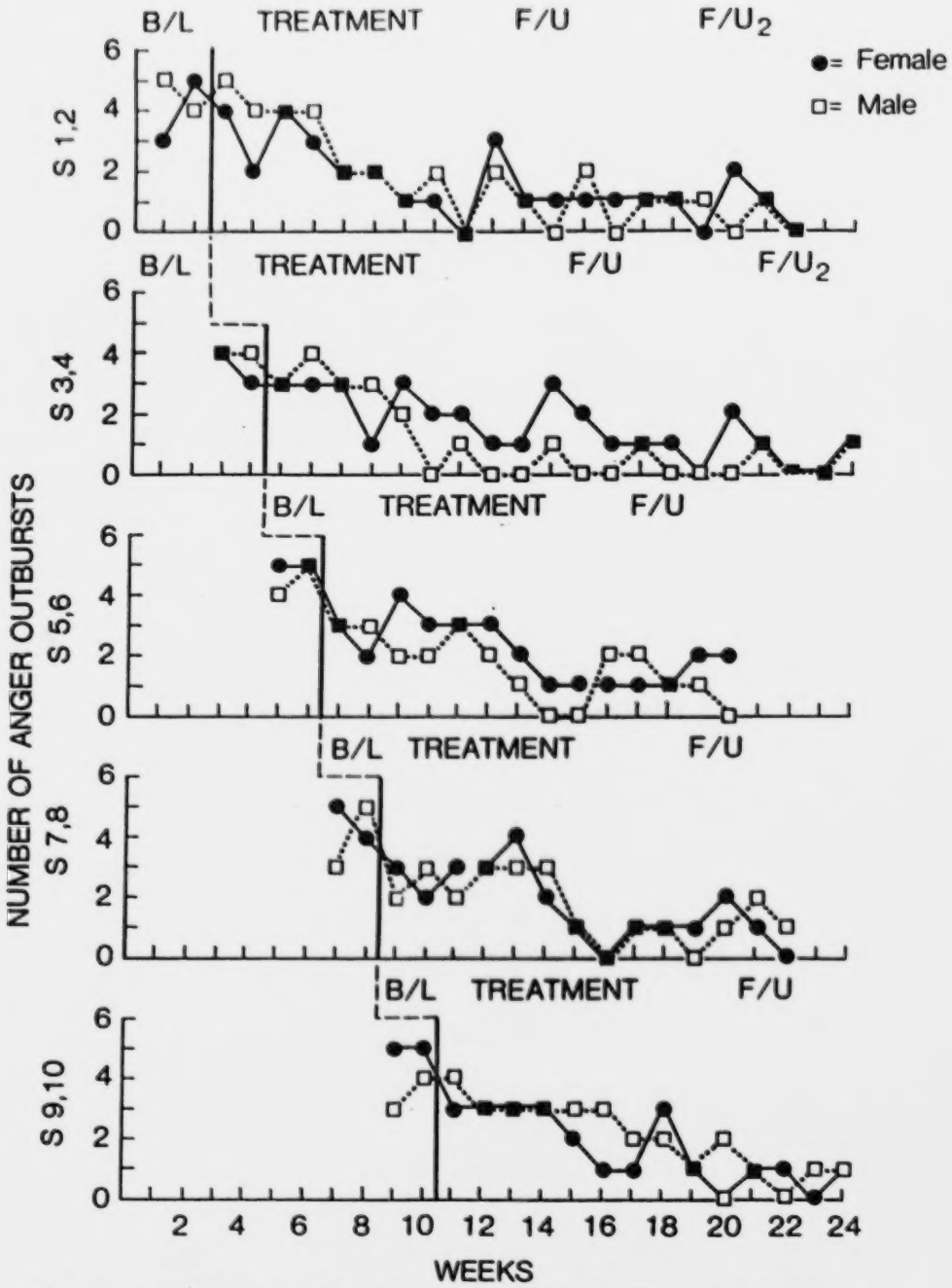
Means and Standard Deviations of scores on the Incomplete Sentences Blank

Test time	Subjects	Overall Adjustment	Anger Words	Anger Phrases with Personal Intent
Pretest	males	134.8 (17.6)	6.6 (4.7)	1.4 (0.9)
	females	132.6 (15.5)	6.2 (2.3)	1.4 (0.9)
	group	133.7	6.5	1.4
Posttest	males	108.6 (9.4)	2.8 (2.4)	0.0 (0.0)
	females	115.6 (15.4)	2.6 (2.3)	0.0 (0.0)
	group	112.1	2.7	0.0

Table 2

Means and Standard Deviations for Feeling, Thinking, and Action Responses to Anger Provoking Pictures

Scale	Time		t	p
	Pre	Post		
Feeling				
Angry	23.0(2.3)	18.0(1.8)	0.90	.39
Not angry	32.0(2.3)	34.0(2.4)	0.32	.76
Thinking				
Facilitative	12.0(1.4)	26.0(1.0)	3.28	<.01
Nonfacilitative	11.0(1.0)	0.0(0.0)	3.50	<.01
Action				
Aggressive	22.0(1.9)	2.0(0.4)	3.72	<.01
Nonaggressive	15.0(1.2)	3.0(1.3)	3.87	<.01



Frequency of Anger Outbreaks for 10 Mentally Retarded Subjects